



THE
ONTARIO WATER RESOURCES
COMMISSION

INDUSTRIAL WATER USE SURVEY

COUNTY OF CARLETON

JUNE 1961

SURFACE WATERS BRANCH

WATER RESOURCES DIVISION

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ONTARIO WATER

COUNTY OF CARLETON

INDUSTRIAL WATER USE SURVEY

An industrial water use survey carried out
as part of the Water Resources Survey in
the County of Carleton and presented in some
detail for internal information and use.

JUNE 1961

SURFACE WATER BRANCH

ONTARIO WATER RESOURCES COMMISSION



Environment Ontario
Water Quality Branch
126 University Street
Environment Ontario, M5P 3V6
Ontario

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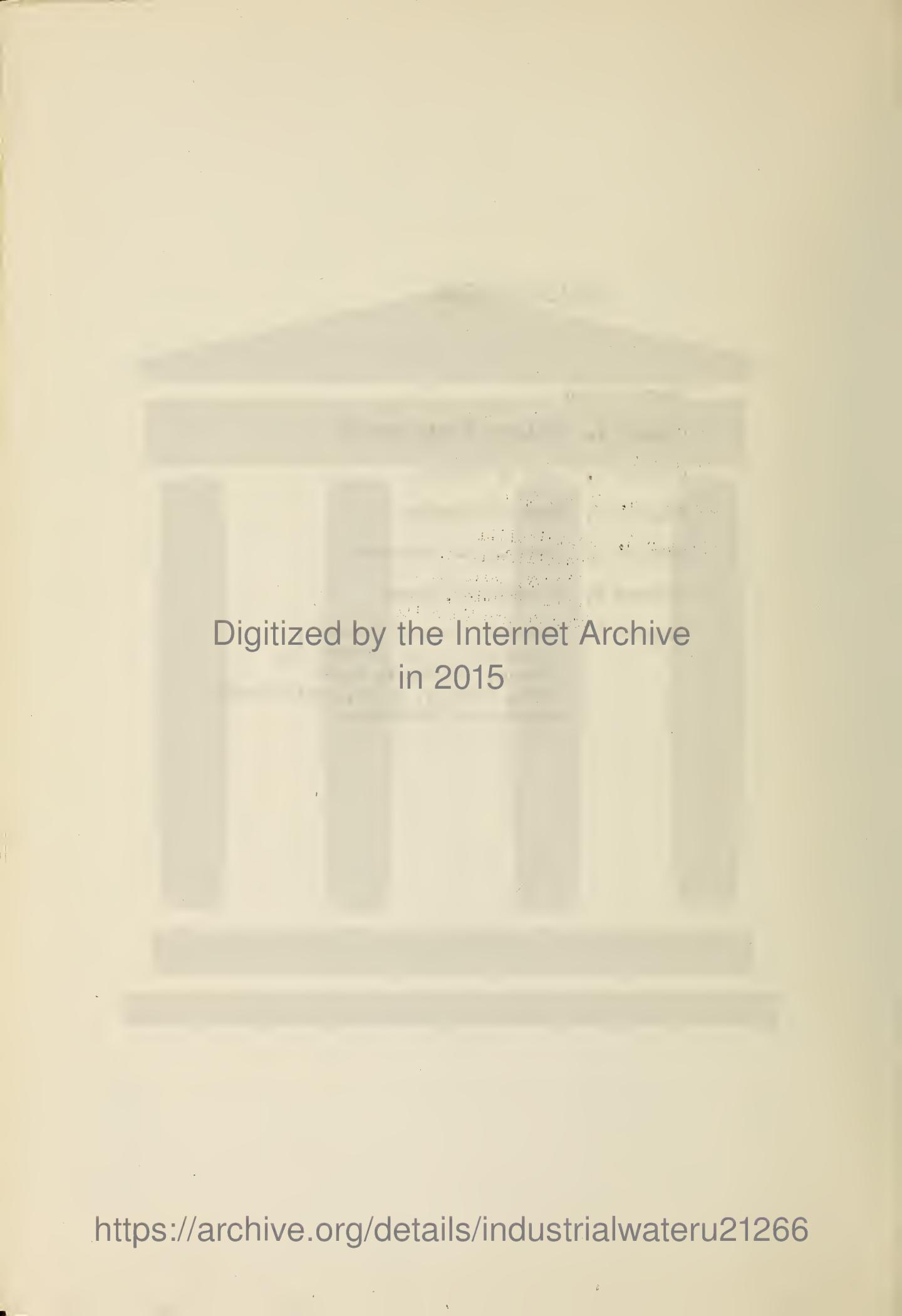
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A very faded, light-colored background image of a historical document. The document appears to be a formal letter or certificate, featuring a large, ornate seal at the top center. Below the seal, there is dense, illegible text that looks like it might be in cursive or a very old printed font. The overall appearance is that of a scan of an old paper document.

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INTRODUCTION

This report presents the most important data obtained while carrying out an industrial water use survey in the County of Carleton in June of 1961. The field work and subsequent preparation of the report were carried out by B. Adams.

The industrial water use survey was carried out in connection with the Carleton County Water Resources Survey. This portion of the broader County survey has been prepared as an internal report to expedite the preparation of the county report and to present details which will not appear in the County report.

Various methods were employed in the process of obtaining data for this industrial water use report. Lists of industries and annual water consumption figures for industries utilizing municipal water were first obtained from municipal officials. Major water users, and those with private supplies, were visited personally in the field, and all others were telephoned. During these interviews, general information concerning products, employees and operations, and specific supply information related to average consumption, specific water uses (sanitary, processing and cooling) and special problems were obtained.

The average water consumption figures given in this report are based on annual consumption figures divided by the number of days (366) in the year.

continued

Consumption figures were not available in the case of a few industries. Estimates were based on an average consumption of 20 gallons per employee per day for sanitary purposes,

The annual industrial water consumption is approximately 12 per cent of the total municipal water consumption. This figure reflects the industrial nature of the County.

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COUNTY OF CARLETON

INDUSTRIAL WATER USE SURVEY

CHAPTER 1

CARLETON COUNTY SUMMARY



Industrial Water Supplies - Carleton County Summary

General. The following table presents a summary of data concerning industrial water use in 1960 in the County of Carleton:

<u>Source</u>	<u>No. of Firms</u>	<u>Average Daily Consumption</u>		<u>Specific Water Uses</u>				
		(gpd x 10 ⁶)	(%)	<u>Sanitary</u> (gpd x 10 ⁶)	(%)	<u>Processing</u> (gpd x 10 ⁶)	(%)	<u>Cooling</u> (gpd 10 ⁶)
Municipal	108	1.105	41.6	0.460	42.7	0.472	15.7	0.173
Private	5	2.280	0.6	0.013	69.2	1.579	30.2	0.688
Total	110	3,385	14.0	0.473	60.5	2.051	25.5	0.861

A summary table by municipalities is given below.

There is a total of 110 diversified industries in the County of Carleton. These industries include forest products enterprises, metal works, printing firms etc., and are largely concentrated in and around the City of Ottawa.

Industry in the County of Carleton relies on two sources for its water supply. The surface water supply in use is the Ottawa River and the ground water supplies are private wells distributed throughout the County. Generally industries which lie on the Ottawa River use the river for their water supply and industries lying inland have their own private wells.

Two of the 110 industries in the County of Carleton obtain water exclusively from private water sources, 105 exclusively from municipal waterworks systems and 3 from both private sources and municipal waterworks systems. In the case of the latter three industries, the water

continued

obtained from private sources is used largely for processing and cooling purposes.

The average daily industrial water consumption in the County of Carleton in 1960 was 3,385,000 gallons per day of which approximately 33 per cent was obtained from municipal waterworks systems and 67 per cent from private sources. It is hence immediately evident that the relatively few industries with private water supplies obtain the larger percentage of water used for industrial purposes in the County of Carleton from these private supplies. The more numerous enterprises which are supplied by municipal waterworks systems use less water than those firms obtaining water from private supplies.

In general, with respect to specific uses approximately 14 per cent of the total amount of water consumed by industries in the County during 1960 was used for sanitary purposes, 60.5 per cent for processing purposes and 25.5 per cent for cooling purposes.

Municipal. The average daily amount of water obtained from municipal waterworks systems by industries in the County of Carleton in 1960 was 1,105,000 gallons per day. Of this amount 41.6 per cent was used for sanitary purposes, 42.7 per cent for processing purposes and 15.7 per cent for cooling purposes.

Private. Industries in the County of Carleton obtained an average of 2,280,000 gallons per day from private sources in 1960 of which 0.6 per cent was used for sanitary purposes, 69.2 per cent was used for processing purposes and 30.2 per cent was used for cooling purposes.

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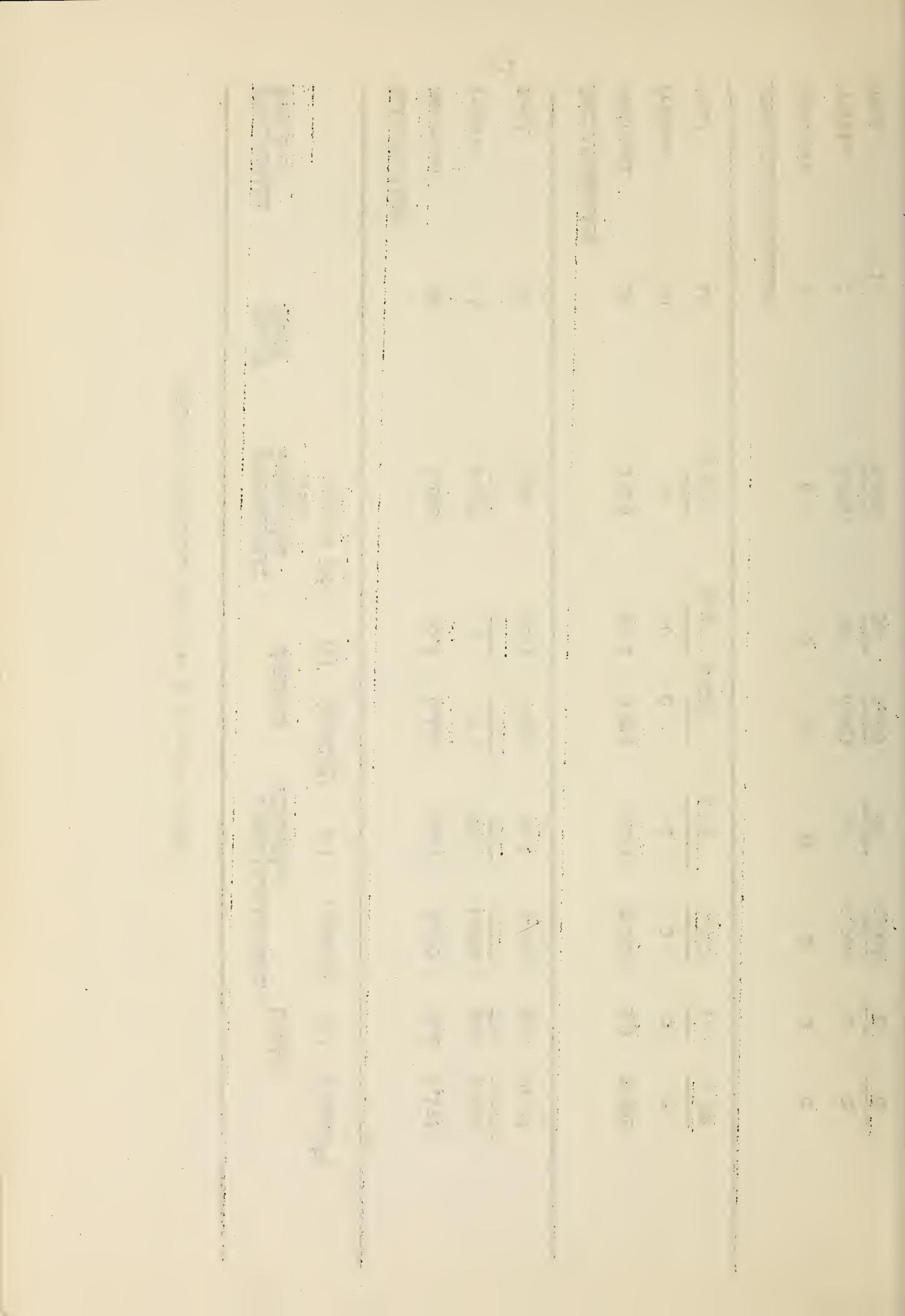
2. Volume and weight

1. The function of the brain

This water was obtained from the Ottawa River and from several private wells. A table of industrial uses of water obtained from private sources is given below.

TABLE OF INDUSTRIAL WATER USE IN THE TOWNSHIP

<u>Municipality & Source</u>	<u>No. of Firms</u>	<u>Average Daily Consumption 1960</u> (gpd x 106)	<u>Sanitary</u> (%)	<u>Industrial</u> (gpd x 106)	<u>Specific Water Usage</u> (gallons)	<u>Cooling</u> (gallons)
<u>City of Ottawa</u>						
Municipal	96	1,036	40.5	0.444	43.7	0.470
Private	3	2,258	0	0	69.6	1,572
Total	96	3,344	13.3	0.444	61.1	2.042
<u>Town of Eastview</u>						
Municipal	12	0,019	84.2	0.016	10.3	0.002
Private	0	0	0	0	0	0
Total	12	0,019	84.2	0.016	10.3	0.002
<u>Township of Gloucester</u>						
Municipal	0	0	0	0	0	0
Private	1	0,009	30	0,003	70	0,006
Total	1	0,009	30	0,003	70	0,006



<u>Municipality & Source</u>	<u>No. of Farms</u>	<u>Average Daily Consumption 1960</u>		<u>Sanitary Processing</u>			<u>Sewerage Water Usage</u>		
		(gpd x 10 ⁶)	(%)	(gpd x 10 ⁶)	(%)	(gpd x 10 ⁶)	(%)	(gpd x 10 ⁶)	(%)
<u>Township of Neean</u>									
Municipal	0	0	0	0	0	0	0	0	0
Private	1	0.013	80	0.010	5	0.001	15	0.002	—
Total	1	0.013	80	0.010	5	0.001	15	0.002	—
County Total	110	3.385	13.9	0.473	60.7	2.051	25.4	0.861	—

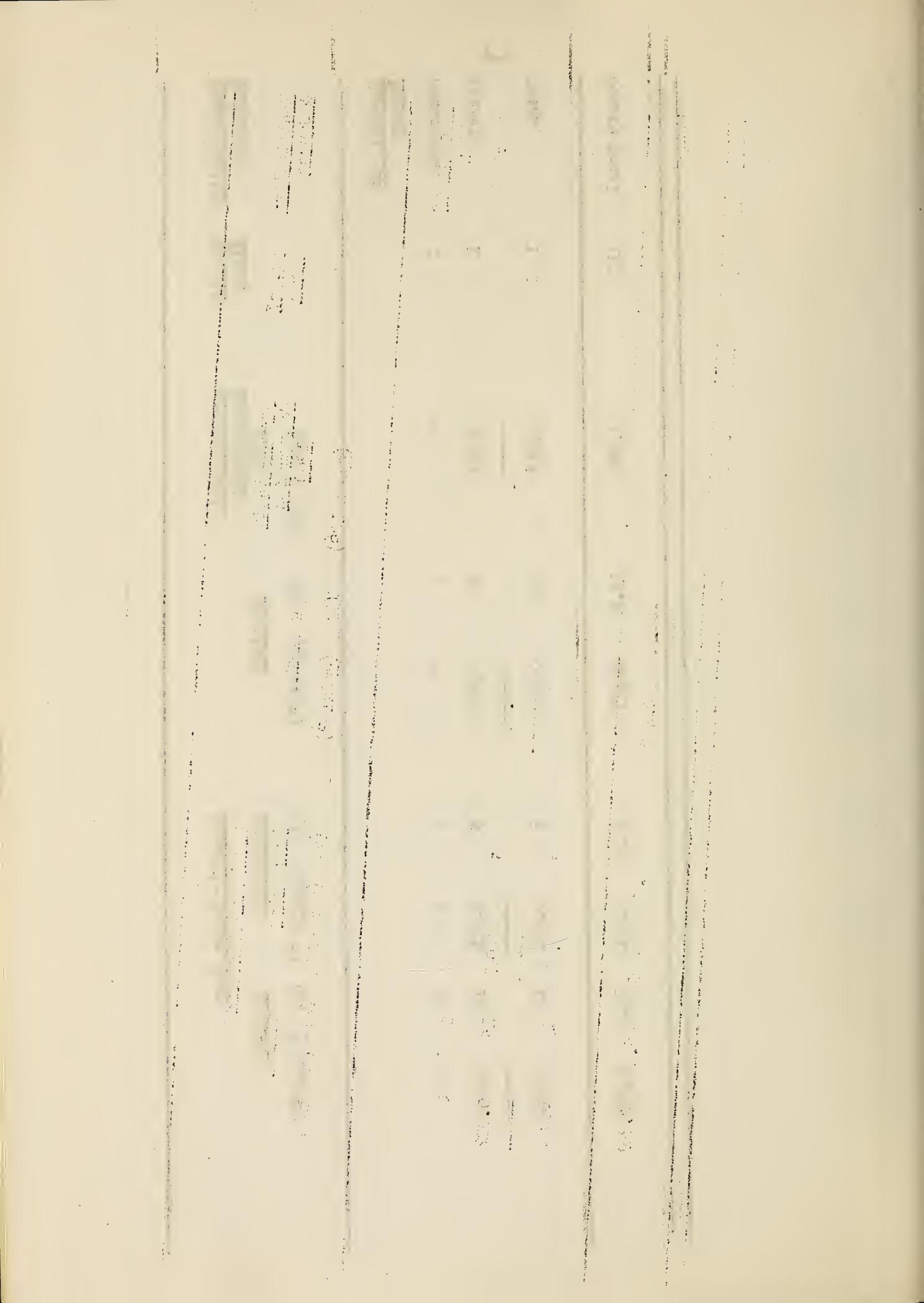


TABLE OF INDUSTRIAL WATER USE IN CANADA COUNTRY -
WATER USED IN MANUFACTURERS

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<u>Municipality</u>	<u>Industry</u>	<u>Source</u>	<u>Private Water</u>	<u>Specific Uses</u>
			<u>Consumption 1960.</u>	<u>Processing</u>
			(gpy)	<u>Cooling</u>
<u>City of Ottawa</u>				
Campbell Steel & Iron Works	Private Well	732,000	0	0
R. L. Grain Ltd. Well	3,660,000	0	0	0
E. B. Eddy Company River	822,117,252	0	0	70
Total (gpy)	826,509,252	0	0	69.6 575,482,076 30 245,635,176
Total (gpd)	2,258,222	0	0	69.6 1,572,355 30.4 685,866
<u>Township of Gloucester</u>	Boque Electric Co. of Canada	Private Well	3,288,729	30 986,619 70 2,302,110 0 0
TOTAL (gpy)	3,288,729	30	986,619	70 2,302,110 0 0
TOTAL (gpd)	8,986	30	2,696	70 6,290 0 0

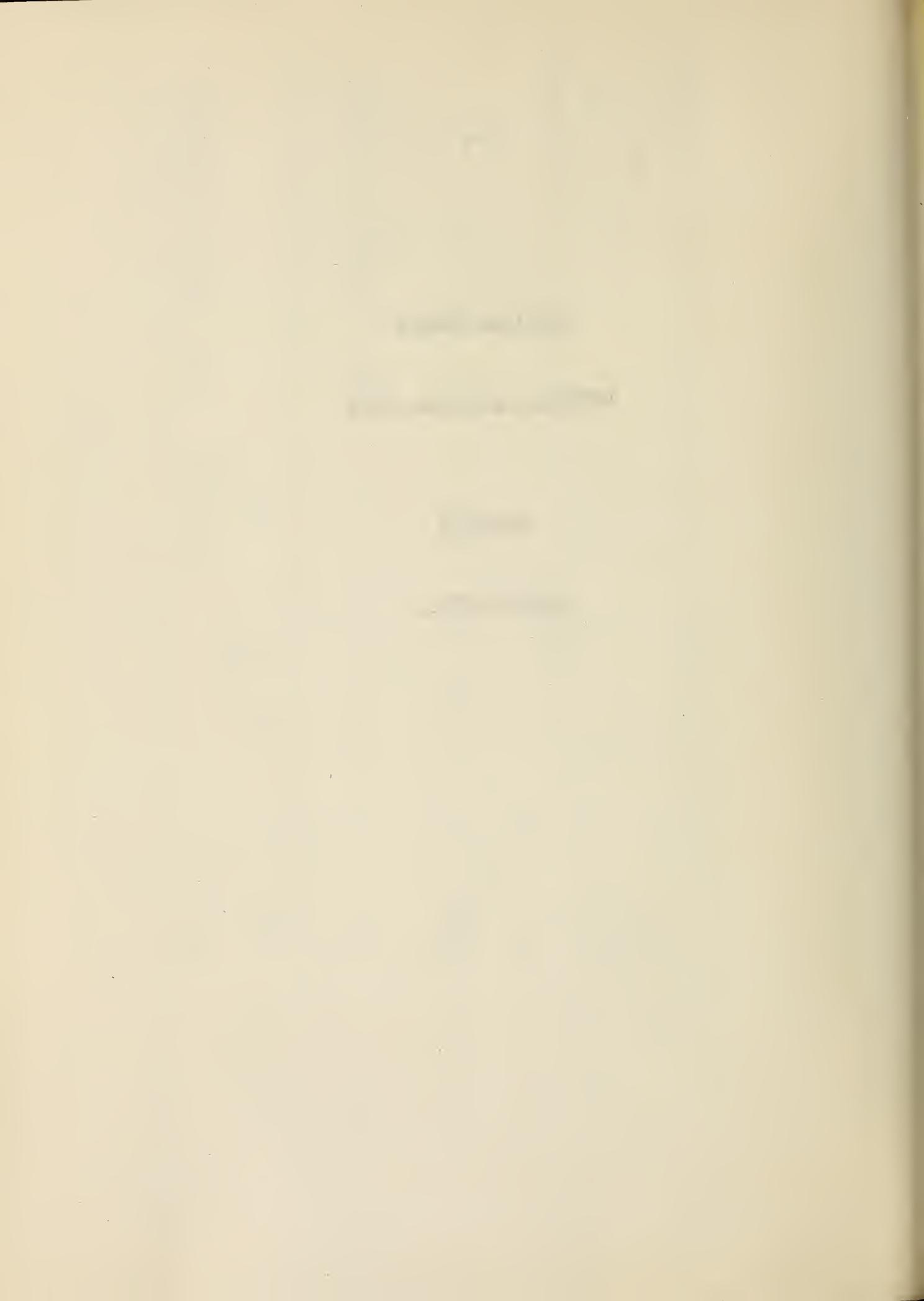
<u>Municipality</u>	<u>Industry</u>	<u>Source</u>	<u>Private Water Consumption</u>	<u>Specific Use</u>
<u>Township of Nerean</u>			<u>1960</u>	<u>1960</u>
	Computing Devices of wells	2 Private	4,684,800	80
				3,747,840
				5
				234,240
				15
				702,720
	TOTAL (gpy)		4,684,800	80
				3,747,840
				5
				234,240
				15
				702,720
	TOTAL (gpd)		12,300	80
				10,240
				5
				640
				15
				1,920
COUNTY TOTAL (gpy)			854,482,781	0.6
COUNTY TOTAL (gpd)			2,230,007	0.6

COUNTY OF CARLETON

INDUSTRIAL WATER USE SURVEY

CHAPTER 2

CITY OF OTTAWA



Industrial Water Supplies - City of Ottawa

General. The following table presents a summary of data concerning industrial water use in 1960 in the City of Ottawa:

Source	No. of Firms	Average Daily Consumption		Specific Water Uses				
		(gpd $\times 10^6$)	(%)	Sanitary (gpd $\times 10^6$)	(%)	Processing (gpd $\times 10^6$)	(%)	Cooling (gpd $\times 10^6$)
Municipal	96	1.086	40.5	0.444	43.7	0.470	15.8	0.172
Private	3	2.258	0	0	69.6	1.572	30.4	0.686
TOTAL	96	3.344	13.3	0.444	61.1	2,042	25.6	0.858

The City of Ottawa is not a highly developed industrial area. The larger percentage of the Ottawa labour force is employed in the civil service. There are approximately 96 manufacturing industries in the City. Most of these enterprises are small and diversified with the exception of a very few. Of the 96 industries in the City, approximately 40 firms use water for industrial processing and/or cooling. Thus over 50 enterprises are dry industries.

Municipal. All industries in the City of Ottawa obtain water from the municipal waterworks system. From this supply approximately 40 per cent is used for sanitary purposes, 44 per cent for processing purposes and 16 per cent for cooling purposes.

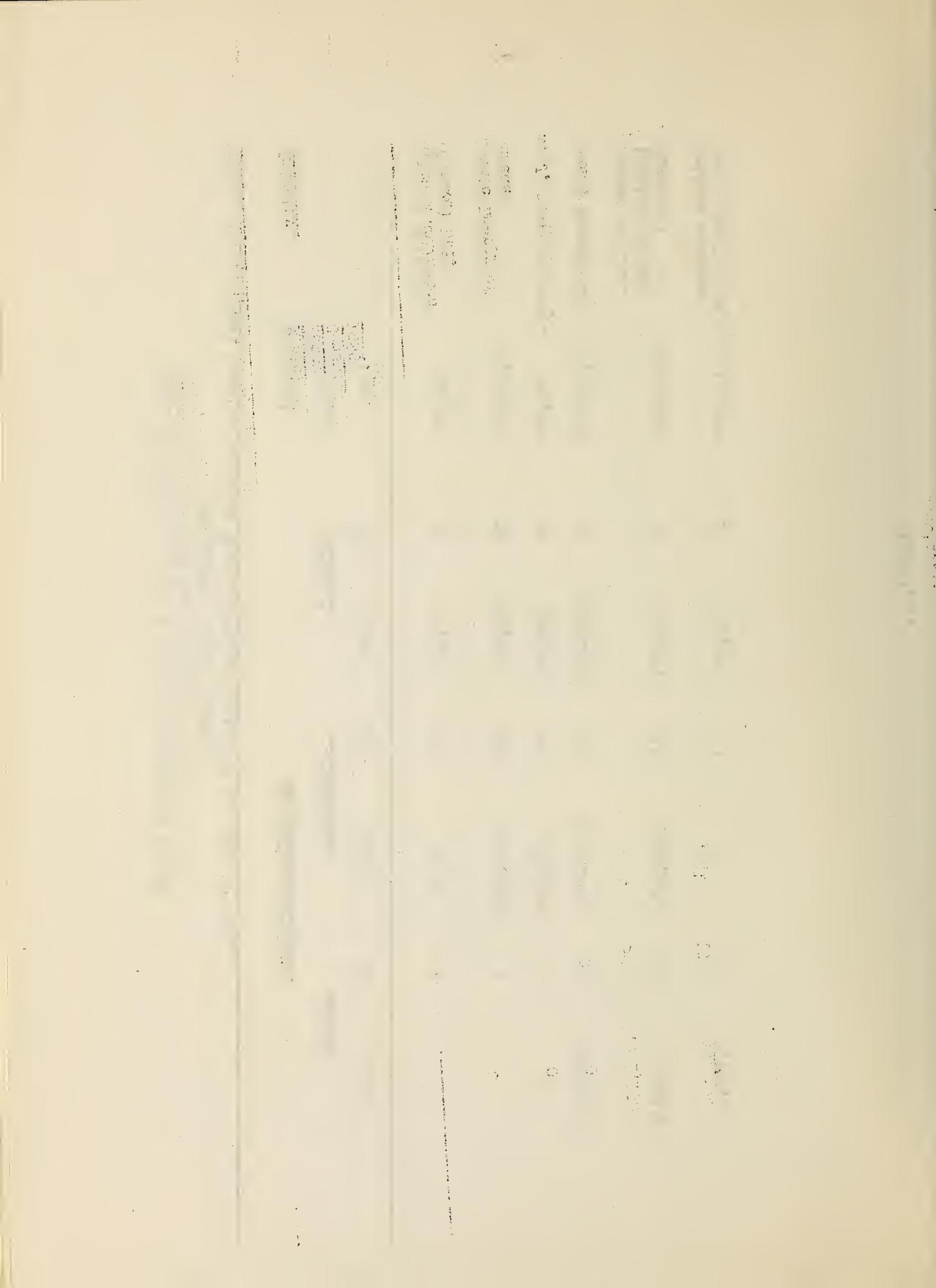
Private. Only three firms in the City have private water supplies, but the consumption from these supplies represents approximately 66 per cent of the total municipal consumption. No water from the private supplies is used for sanitary purposes. Approximately 70 per cent is used for processing purposes and 30 per cent for cooling purposes.

As the $\frac{1}{2}$ of $\frac{1}{2}$ is $\frac{1}{4}$, the $\frac{1}{2}$ of $\frac{1}{4}$ is $\frac{1}{8}$.

TABLE OF MUNICIPAL WATER SUPPLIED TO INDUSTRIES IN THE
CITY OF OTTAWA WHICH USE A PORTION OF THIS WATER FOR
PROCESSING AND/OR COOLING

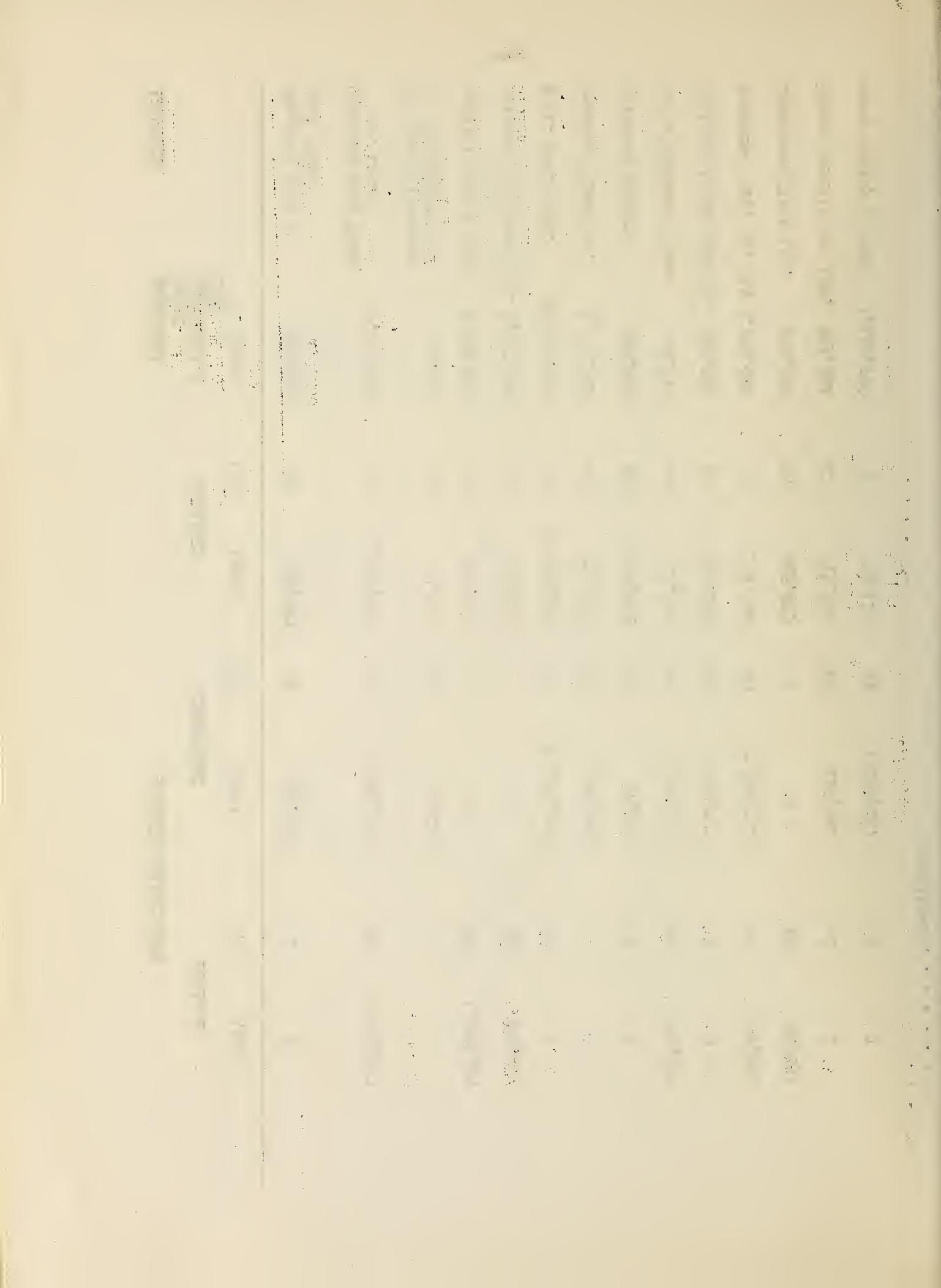
NOTE: All municipal water is supplied from waterworks system of the City of Ottawa

<u>Industry</u>	<u>Municipal Water Consumption 1960</u> (gpy)	<u>Specific Water Uses</u>					
		<u>Sanitary</u> (%)	<u>Processing</u> (gpy)	<u>Cooling</u> (%)	<u>Cooling</u> (gpy)	<u>Specific Water Uses</u> (%)	<u>Specific Water Uses</u> (gpy)
Allen & Rollaston (Ottawa) Ltd.	92,352	20	18,470	80	73,881	0	0
Atomic Energy of Canada	1,140,000	70	780,000	30	360,000	0	0
R. J. Bastien & Co.	371,280	80	297,024	20	74,256	0	0
Beach Foundry Ltd.	10,737,168	20	2,147,434	50	5,368,584	30	3,221,150
Borden Co., Ltd., (Chateau Cheese Division)	2,414,256	30	724,277	55	1,327,841	15	362,138
British American Bank Note Co. Ltd.	6,411,600	10	541,160	0	0	90	5,770,440



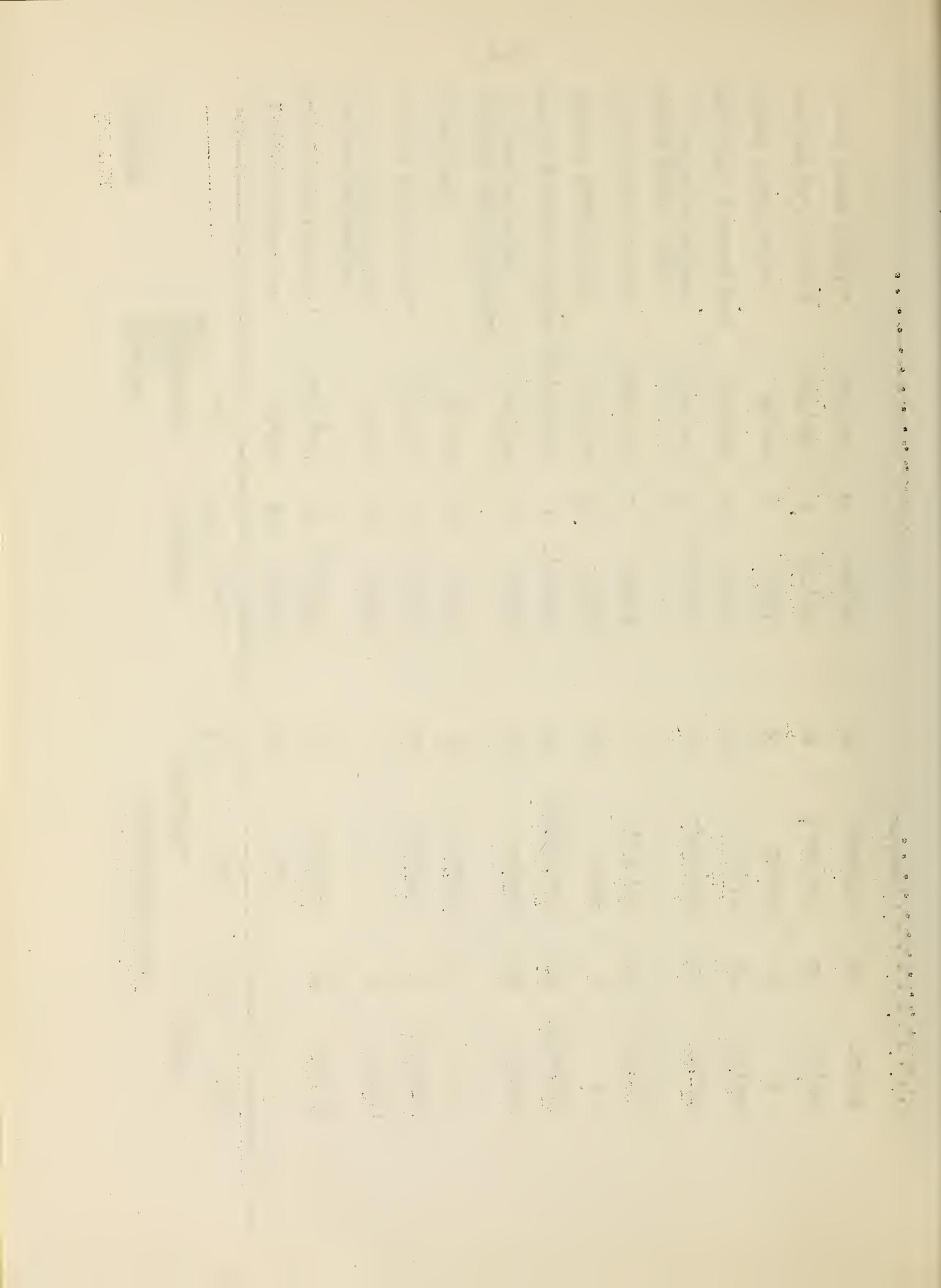
<u>Industry</u>	<u>Municipal</u>			<u>Specific Water Uses</u>		
	<u>Water</u>	<u>Sanitary</u>	<u>Processing</u>	<u>Cooling</u>	<u>Cooling</u>	
<u>Consumption</u>	<u>(gpy)</u>	<u>(%)</u>	<u>(gpy)</u>	<u>(%)</u>	<u>(gpy)</u>	
<u>1960</u>						
Campbell Ltd. & Iron Works	499,200	40	199,680	50	299,520	0
Canadian Bank Note Co. Ltd.	9,263,916	20	1,852,799	15	1,390,334	65
Canadian Pittsburg Industries	141,024	60	84,614	40	56,410	0
Capital Wire & Cloth	2,761,824	30	823,547	0	0	70
2-4 Citizen Publishing Co. 1,213,056	20	242,611	0	0	80	970,445
R. L. Crain Ltd.	67,236,000	70	47,065,200	30	20,170,300	0
Crawley Films Ltd.	1,219,920	60	731,952	40	487,968	0
Davidson Foundry	185,328	80	148,262	20	37,066	0
O. L. DeRouin & Sons	238,992	20	47,798	50	119,496	30
Dominion Loose Leaf Co.	927,888	40	371,155	60	556,733	0
Dustbane Mfg. Co. Ltd	7,999,680	2	159,994	90	7,199,712	8
Alexander Fleck Ltd.	606,528	90	545,875	0	0	10
Fraser Duntile Co. Ltd.	683,904	40	273,562	60	410,342	0
Harry Hayley & Sons	1,122,576	5	56,129	95	1,166,447	0

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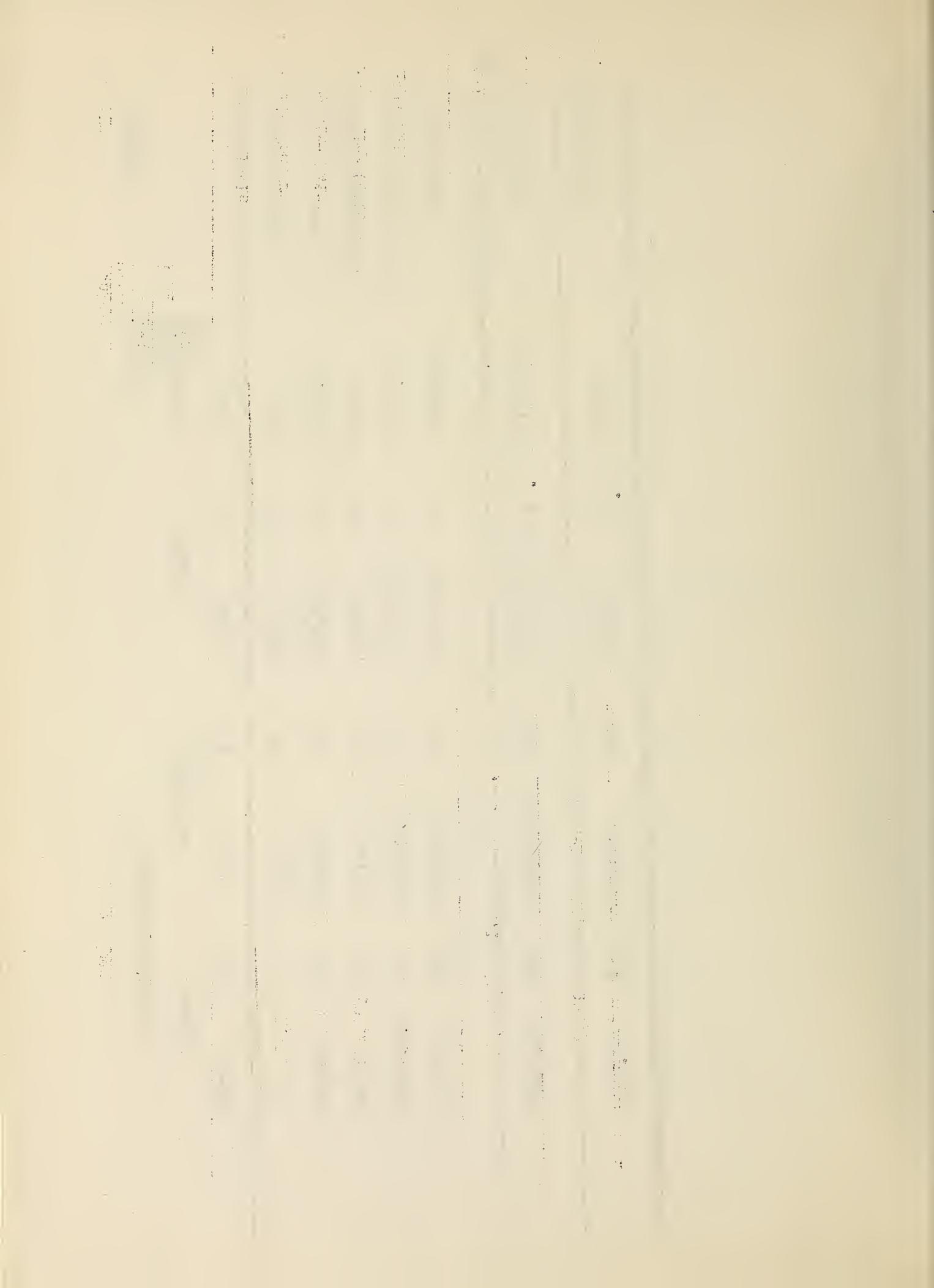


Industry	Municipal Water Consumption 1960			Processing			Specific Water Uses Cooling		
	(gpy)	(l)	(gpy)	(%)	(gpy)	(l)	(gpy)	(%)	(gpy)
Imperial Optical Co.	155,550	80	124,440	20	31,110	0	0	0	0
Detroit Publishing Co.	2,206,464	60	1,323,878	10	220,546	30	651,940		
Mechron Engineering Products Ltd.	888,576	80	710,861	0	0	20	177,715		
Journal Publishing Co.	4,524,000	50	2,262,000	20	904,800	30	1,357,200		
Alex Moore	286,416	60	171,850	40	114,566	0	0		
National Drug & Chemical Company of Canada	929,760	45	418,392	35	325,416	20	185,952		
O'Keefes Brewery Limited	144,543,984	5	7,227,199	80	115,635,187	15	21,681,598		
Ontario Beauty Supply	153,504	70	107,453	30	46,051	0	0		
C.P.W. Paints Limited	8,811,504	10	881,150	15	1,321,726	75	6,608,628		
Ottawa Birch & Terra Cotta Co., Limited	6,531,700	65	4,245,600	25	1,632,925	10	653,170		
Rapid Grip & Batten Ltd.	870,480	25	217,620	45	391,716	30	261,144		
Safety Vermin Control	69,888	60	41,933	40	27,955	0	0		
Sun Tube Co. of Canada	4,277,520	15	641,628	75	3,208,140	10	427,752		
Thomas Supply & Equip.	3,672,240	15	550,836	65	2,386,956	20	734,448		

Continued



<u>Industry</u>	<u>Municipal</u>			<u>Specific Water Uses</u>		
	<u>Water</u>	<u>Consumption</u>	<u>Sanitary</u>	<u>Processing</u>	<u>Cooling</u>	
	<u>1960</u>	<u>(gpy)</u>	<u>(%)</u>	<u>(gpy)</u>	<u>(%)</u>	<u>(gpy)</u>
Valley Chemicals	19,968	30	5,990	70	13,973	0
Victoria Foundry	1,339,738	20	267,946	50	669,864	30
Ottawa City Dairy	145,329	50	72,664	15	21,799	35
Borden Dairy (Ottawa)	32,507,280	70	22,755,096	10	3,250,728	20
Clark's Dairy	20,952,672	65	13,619,237	15	3,142,901	20
Total (gpy)	348,158,058	32.0	112,863,316	49.9	172,345,854	18.1
Total (gpd)	951,196	32.0	308,370	49.9	470,891	18.1
						171,991



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COUNTY OF CARLETON

INDUSTRIAL WATER USE SURVEY

CHAPTER 3

TOWN OF EASTVIEW

Industrial Water Supplies - Town of Eastview

General. The following table presents a summary of data concerning industrial water use in 1960 in the Town of Eastview:

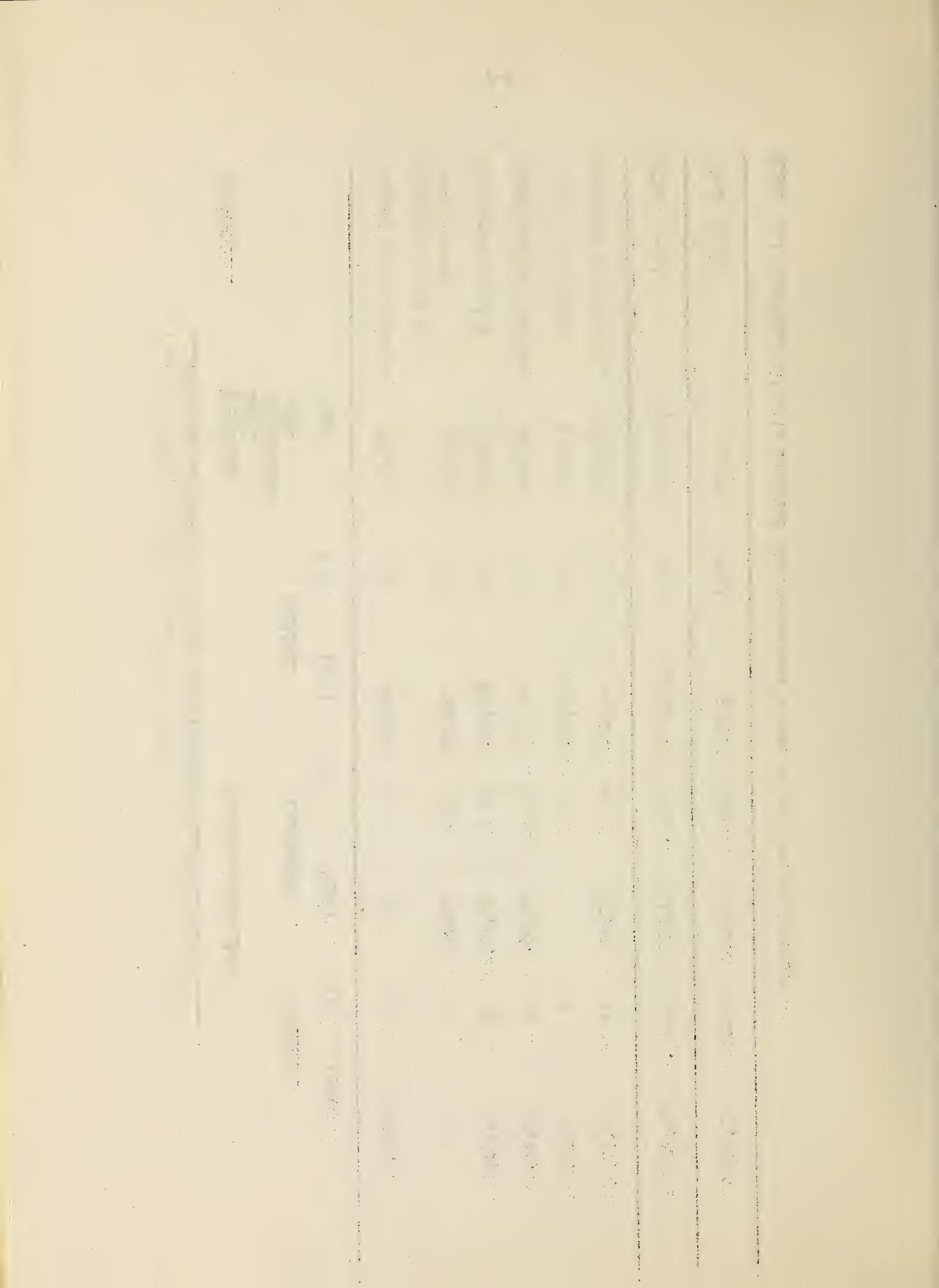
<u>Source</u>	<u>No. of Firms</u>	<u>Average Daily Consumption</u>		<u>Specific Water Uses</u>			
		<u>Sanitary</u>	<u>Processing</u>	<u>Cooling</u>			
		(gpd x 10 ⁶)	(%)	(gpd x 10 ⁶)	(%)	(gpd x 10 ⁶)	(%)
Municipal	12	0.019	84.2	0.016	10.3	0.002	5.5
Private	0	0	0	0	0	0	0
TOTAL	12	0.019	84.2	0.016	10.3	0.002	5.5

In the Town of Eastview there is relatively little industry. The largest enterprise is the Dominion Bridge Company which employs approximately 100 persons. The amount of water consumed industrially is relatively small. All industrial water is obtained from the municipal waterworks system. Approximately 85 per cent of this supply is used for sanitary purposes, 10 per cent for processing and 5 per cent for cooling purposes.

TABLE OF MUNICIPAL WATER SUPPLIED TO INDUSTRIES IN THE TOWN OF EASTVIEW
WHICH USE A PORTION OF THIS WATER FOR PROCESSING AND/OR COOLING

<u>Industry</u>	<u>Specific Water Uses</u>					
<u>Municipal Water Consumption 1960</u>	<u>Sanitary</u>	<u>Processing</u>	<u>Cooling</u>	<u>(gpy)</u>	<u>(%)</u>	<u>(gpy)</u>
Allied Paper Products	700,000	80	560,000	0	0	20
Betcherman Iron and Metal Company	90,480	60	54,288	40	36,192	0
Band Brass Limited	308,630	65	200,609	15	46,295	20
McKay Smelters Limited	256,200	60	153,720	25	64,050	15
Ottawa Iron Works	172,224	90	155,002	0	0	17,222
Twin City Dunbrick Co.	915,533	20	183,107	65	595,096	15
TOTAL (gpy)	2,443,067	53.4	1,306,726	30.4	741,633	16.2
TOTAL (gpa)	6,675	53.4	3,570	30.4	2,026	16.2
						1,079

Note: All municipal water is supplied from waterworks system of the Town of Eastview



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COUNTY OF CARLTON

INDUSTRIAL WATER USE SURVEY

CHAPTER 4

TOWNSHIP OF CLOUCESTER

Industrial Water Supplies - Township of Gloucester

General. The following table presents a summary data concerning industrial water use in 1960 in the Township of Gloucester:

Source	No. of Firms	Average Daily Consume- tion (gpd $\times 10^6$)	Sanitary (%)		Processing (gpd $\times 10^6$)		Specific Water Uses Cooling (gpd $\times 10^6$)	
			Sanitary (%)	Processing (gpd $\times 10^6$)	Processing (gpd $\times 10^6$)	Cooling (gpd $\times 10^6$)		
Municipal	0	0	0	0	0	0	0	0
Private	1	0.009	30	0.003	70	0.006	0	0
	—	—	—	—	—	—	—	—
TOTAL	1	0.009	30	0.003	70	0.006	0	0

The Township of Gloucester has only one major industry, the Bogue Electric Company of Canada Limited. This firm has a private well which supplies all water. From this supply 70 per cent is used directly for industrial processing and the remaining 30 per cent for sanitary purposes.

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COUNTY OF CARLETON

INDUSTRIAL WATER USE SURVEY

CHAPTER 5

TOWNSHIP OF NEPEAN

Industrial Water Supplies - Township of Nepean

General. The following table presents a summary of data concerning industrial water use in 1960 in the Township of Nepean.

<u>Source</u>	<u>No. of Firms</u>	<u>Average Daily Consumption</u> (gpd x 10 ⁶)	<u>Specific Water Uses</u>		
			<u>Sanitary</u> (%)	<u>Processing</u> (gpd x 10 ⁶)	<u>Cooling</u> (gpd x 10 ⁶)
Municipal	0	0	0	0	0
Private	1	0.013	80	0.010	5
TOTAL	1	0.013	80	0.010	5

The Township of Nepean has only one major industry, the Computing Devices of Canada, which employs 475 persons. The water is supplied from three wells which have a pumpage capacity of 2,000 gallons each per hour. At present they are operating at approximately 40 per cent capacity. This firm uses most of its water supply for sanitary purposes and only a small percentage for processing and cooling purposes.

COUNTY OF CARLTON

INDUSTRIAL WATER USE SURVEY

CHAPTER 6

MUNICIPALITIES OF RICHMOND, ROCKCLIFFE PARK,
STITTSVILLE, FITZROY, GOULBOURN, GOWER NORTH,
HUNTLEY, MARCH, MARLBOROUGH, OSGOODE AND
TORBOLTON.



INDUSTRIAL WATER SUPPLIES - MUNICIPALITIES OF
RICHMOND, ROCKCLIFFE PARK, STITTSVILLE, FITZ-
ROY, GOULBOURN, GOWER NORTH, HUNTLEY, MARCH,
MARLBOROUGH, OSGOOD AND TORBOLTON.

The Villages of Richmond, Rockcliffe Park and Stittsville are residential areas. At present there is no industrial development in these communities. In 1956 Stittsville became incorporated as a police village with a population of 400 persons. At present the population is 1,400. The National Capital Commission estimate of predicted growth in this area is 20,000 persons within twenty years. With this increase in population comes the prospect of industrial development in the Stittsville area.

The remaining municipalities are township areas and are rural farming districts. The water is supplied in most cases by means of dug and drilled wells and is used only for domestic and commercial purposes. At present there is no industrial development in these municipalities.

Date Due

ONTARIO WATER RESOURVES COMMISSION
DIVISION OF WATER RESOURCES.

INDUSTRIAL WATER USE SURVEY
COUNTY OF CARLETON.

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Ontario Water Resources Co
Industrial water use
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Water Quality
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Toronto, Ontario M5G 1V6
Canada

